

Fort Carson Water Quality Report 2014 – PWSID # CO0221445
Courtesy: Directorate of Public Works – Environmental Division

Fort Carson’s drinking water is of high quality and has been for many years. Fort Carson is committed to providing customers with a superior and reliable supply of high quality water. This report is designed to inform customers about the quality of drinking water and services delivered to their water tap every day.

Water Source Information

Fort Carson is a consecutive public water system that purchases its water from Colorado Springs Utilities [CSU] (PWSID #CO0121150). CSU gets its water from mountain streams, some local streams, local ground water, and purchases some from Fountain Valley Authority [FVA] (PWSID # CO0121300). Fort Carson’s water quality may vary during the year and may be a blend of surface water and ground water.

State Source Water Assessment

The Colorado Source Water Assessment and Protection (SWAP) program is a preventative approach to protect public drinking water supplies. The Colorado Department of Public Health & Environment (CDPHE) provided CSU with a Water Assessment Report for their water sources. This report included surface water sources, purchased water source (FVA) and also wells in the Widefield aquifer (unused since 2004).

CSU is dedicated to protecting source waters and ensuring quality water is delivered to its customers. The source water assessment results are not a reflection of CSU’s treated water quality at the tap, but rather a contamination susceptibility rating under guidelines of the SWAP program. The complete SWAP report for CSU can be found at the Colorado Department of Public Health & Environment’s website www.colorado.gov/cdphe/dir/wq/swap/elpaso/121150cospringsutilitiesqswsrevised.pdf.

Possible Water Contaminants

Sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses & bacteria may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides that may come from a variety of sources, such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also may come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The US FDA rules establish limits for contaminants in bottled water that must provide the same public health protection.

Vulnerable Populations Advisory

Some individuals may be more vulnerable to drinking water contaminants than the general public. Drinking water, including bottled water, may reasonably be expected to contain at least trace amounts of some contaminants. Contaminants presence does not necessarily indicate that the water poses a health risk. Immune-compromised persons; persons with cancer, undergoing chemotherapy; persons who have undergone organ transplants; people with HIV-AIDS or other immune system disorders; some elderly; and infants, can be particularly at risk of infections. These people should seek drinking water advice from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the EPA and the Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and microbiological contaminants, call the EPA Safe Drinking Water Hotline at 1-800-426-4791 or visit www.epa.gov.

Lead Information

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water results primarily from materials and components associated with service lines and home plumbing. Fort Carson and CSU are responsible for providing high quality drinking water, but a variety of materials can be used in plumbing components. When water has been sitting for several hours, minimize the potential for lead exposure by flushing the tap for 30 seconds to 2 minutes before using water for drinking or cooking. If there is a concern about lead in the water, the water may be tested. Information on lead in drinking water, testing methods, and steps to take to minimize exposure is available from the EPA Safe Drinking Water Hotline at 1-800-426-4791 or at www.epa.gov/safewater/lead.

Fort Carson tested for lead and copper at 60 cantonment sites in 2013.

Fluoride Information

Fluoride is an element found naturally in many places; including soil, food, plants, animals and the human body. Neither CSU nor Fort Carson adds additional fluoride to your drinking water. Any fluoride in the drinking water results from what occurs naturally in source waters.

Microbiological Information

CSU and FVA perform analyses on source water and finished water to determine treatment and filtering effectiveness of their processes, related to microbiological contaminants, such as *cryptosporidium*. These analyses show adequate treatment that is within regulatory requirements.

Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Although filtration removes *cryptosporidium*, most filtration methods cannot guarantee 100 percent removal. CSU’s monitoring indicates the presence of these organisms in source water. However, no organisms were detected in drinking water distributed to customers. Current test methods don’t allow determination whether these organisms are dead or able to cause disease. Ingestion of *cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Infection symptoms include nausea, diarrhea, and abdominal cramps. Most healthy individuals overcome the disease within a few weeks. However, immune-compromised people have greater risk of developing life-threatening illness. These individuals are encouraged to consult their doctor regarding proper precautions needed to avoid infection. *Cryptosporidium* must be ingested to cause illness, and it may be spread in a way other than drinking water. For more information on *cryptosporidium* visit <http://water.epa.gov/drink/contaminants/basicinformation/pathogens.cfm>.

Unregulated Contaminant Monitoring Rule (UCMR)

CSU has sampled for a series of unregulated contaminants at its treatment plants and throughout the distribution system. UCMR is a fact finding program authorized under the Safe Drinking Water Act (SDWA) by the EPA. The EPA has not set any maximum contaminant levels for the contaminants listed under UCMR. The EPA will evaluate UCMR data collected throughout the United States to determine if any of the contaminants require regulation. The third round of UCMR required CSU to monitor 28 contaminants over 4 quarters starting July 2013. The results for contaminants detected, to date, are listed below.

Contaminant	Units	Average Level Detected (Range)	Sample Dates	Potential Sources of Contaminant
Molybdenum	ppb	0.36 (ND-1.4)	Jul, Oct 2013 & Jan 2014	Used to make steel alloys. Used in high-pressure & high-temp applications, such as pigments & catalysts.
Strontium		79.3 (46-110)		Used in making ceramics & glass products, pyrotechnics, paint pigments, fluorescent lights, & medicines.
Vanadium		0.02 (ND-0.31)		Used to make metal alloys; making rubber, plastics, ceramics, and other chemicals.
Chlorate		4.8 (ND-63)		Powerful oxidizer once used in pyrotechnics. Can be chemically bound to make metal salts.

Definitions

This report contains terms and abbreviations that may be unfamiliar. To better understand these terms, the following definitions are provided:

- **AL-Action Level:** The concentration of a contaminant, if exceeded, triggers treatment or other requirements a water system must follow.
- **LRAA-Location Running Annual Average:** Based on the monitoring requirements, the average of 12 consecutive monthly analytical results or the average of four consecutive quarter analytical results at a particular monitoring location.
- **MCL-Maximum Contaminant Level:** The “maximum allowed” is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- **MCLG-Maximum Contaminant Level Goal:** The “goal” is the level of a contaminant in drinking water, below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **MRDL-Maximum Residual Disinfectant Level:** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **MRDLG-Maximum Residual Disinfectant Level Goal:** The level of a drinking water disinfectant, below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **N/A:** Not applicable.
- **NTU-Nephelometric Turbidity Unit:** NTU is a measure of the clarity of water. Turbidity in excess of five NTU is just noticeable to the average person.
- **ND-Non-detect:** Laboratory analysis result is below the reportable level for that analysis.
- **µg/L- micrograms per liter or parts per billion (ppb):** One part per billion corresponds to one minute in 2,000 years or one penny in \$10,000,000.
- **mg/L- milligrams per liter or parts per million (ppm):** One part per million corresponds to one minute in two years or one penny in \$10,000.
- **pCi/L-Picocuries per liter:** A measure of the radioactivity in water.
- **RAA-Running Annual Average:** Monitoring requirements based; average of 12 successive monthly averages or average of 4 successive quarter averages.
- **TT-Treatment Technique:** A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- **Waiver:** State permission not to test for a specific contaminant.

Tables of Detected Contaminants

CDPHE requires CSU to monitor some contaminants less than annually, as concentrations of these contaminants isn’t expected to vary notably from year-to-year; or the system is considered lower risk for this contaminant. Some data, though representative, may be older than a year.

Fort Carson is a consecutive public water system which purchases its finished water from Colorado Springs Utilities and indirectly, in part, from the Fountain Valley Authority. CSU does the majority of the compliance monitoring for this drinking water and their monitoring information is included with this report. Fort Carson also performs its own water quality monitoring which included the following for calendar year 2013:

- Coliform Bacteria: 50 analyses per month or 600 for calendar year 2013
- Trihalomethanes (TTHM) and Haloacetic Acids (HAA5): 4 sites analyzed quarterly
- Lead and Copper: 60 sites analyzed two times in 2013

The tables show combined result of CSU’s & Fort Carson’s monitoring for period of January 1 to December 31, 2013, unless otherwise noted:

Table 1 - Parameters Monitored at CSU’s McCullough, Pine Valley, Mesa and FVA Water Treatment Plants (entry points to distribution system)

Contaminant	MCL	MCLG	Units	Highest Level Detected (Range)	MCL Violation; Yes or No	Sample Dates	Likely Source of Contaminant
Barium	2	2	ppm	0.0569 (0.0107-0.0569)	No	Aug 2013	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Di(2-ethylhexyl) phthalate	6	0	ppb	1.0 (ND-1.0)	No	Jun, Aug, Oct 2013	Discharge from rubber & chemical factories
Chromium	100	100	ppb	1.1 (ND-1.1)	No	Aug 2013	Discharge from steel and pulp mills, erosion of natural deposits
Fluoride	4	4	ppm	1.36 (0.13-1.36)	No	Aug 2013	Erosion of natural deposits; discharge from fertilizer & aluminum factories
Hexachlorocyclopentadiene	50	50	ppb	0.051 (ND-0.051)	No	Jun, Aug, Oct 2013	Chemical factories discharge
Nitrate (as Nitrogen)	10	10	ppm	0.20 (ND-0.20)	No	Aug 2013	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nickel	N/A	N/A	ppb	2.0 (ND-2.0)	N/A	Aug 2013	Natural deposits erosion; industries refineries & steel mills discharge
Radium, Combined 226, 228	5	0	pCi/L	0.1	No	Mar 2011	Erosion of natural deposits
Selenium	50	50	ppb	3.8 (ND-3.8)	No	Aug 2013	Petroleum, metal refineries & mines discharge; natural deposits erosion
Sodium	N/A	N/A	ppm	17.0 (8.19-17.0)	No	Aug 2013	Natural deposits erosion
Total Organic Carbon (TOC)	TT	N/A	N/A	N/A**	No	RAA	Naturally present in environment
**The Disinfectants and Disinfection Byproducts Rule provides several alternative compliance criteria besides the TOC removal ratios. CSU did not report TOC removal ratios because they met alternative compliance criteria. The alternative compliance criteria that CSU uses is 40CFR §141.135 (a)(2)(ii). Their treated water TOC levels are <2.0 ppm, calculated quarterly as a running annual average.							
Turbidity*	TT ≤0.3 in 95% of monthly samples	N/A	NTU	Highest turbidity 0.68 (Jan 2013) 99% of samples ≤0.3	No	Jan-Dec 2013	Soil Runoff
*Turbidity is a measure of cloudiness of water. Turbidity monitoring is required because it's a good indicator of the filtration system effectiveness.							
Uranium	30	0	ppb	1.1	No	Mar 2011	Erosion of natural deposits

CDPHE has issued CSU waivers for asbestos, cyanide, dioxin, glyphosate, nitrite, and all unregulated inorganic contaminants.

Table 2 - Monitored in Fort Carson's Distribution System

Contaminant	MCL	MCLG	Units	Average Level Detected (Range)	MCL Violation?	Sample Dates	Possible Sources of Contaminants
Residual Chlorine	MRDL = 4	MRDLG = 4	ppm	0.17 (0.01-0.98)	No	Jan-Dec 2013	Drinking water disinfectant used to control microbes
Haloacetic Acids 5 (HAA5)	60	N/A	ppb	12.2 (2.8-25.6)	No	Feb, May, Aug, Nov 2013	By-product of drinking water disinfection
Total Trihalomethanes (TTHM)	80	N/A	ppb	58.7 (44.1-78.3)	No	Feb, May, Aug, Nov 2013	By-product of drinking water disinfection
Total Coliform	5% of monthly samples are positive	0	Absent/Present	4.92% [Highest, Sep 2013] (0-4.92%)	No	Jan-Dec 2013	Naturally present in the environment

Table 3 - Monitored at Fort Carson Consumer's Tap

Contaminant	AL @ the 90 th Percentile	MCLG	Units	90 th Percentile	# of Samples Analyzed	Sample Sites Above AL	MCL Violation?	Sample Dates	Possible Sources of Contamination
Copper	1300	1300	ppb	300	60	0	No	May 2013 Sept 2013	Corrosion of household plumbing systems: Erosion of natural deposits
Lead	15	0	ppb	3.9	60	1	No		
Copper	1300	1300	ppb	370	60	1	No		
Lead	15	0	ppb	4.9	60	1	No		

Violations, Significant Deficiencies, and Formal Enforcement Actions

Fort Carson had one monitoring violation in September 2013. A routine coliform sample from a down range site was positive and the re-sample was negative. However, only one repeat sample was tested, whereas the requirement is to test at least three repeat samples. This constituted a Tier 3 monitoring violation, requiring public notification through the Consumer Confidence Report (See Public Notification, next page).

MORE INFORMATION

Have questions concerning this report? Please call the DPW Environmental Division Water Programs at (719) 526-1730 or CSU at (719) 668-4560 or visit <http://www.csu.org>. CSU Water Quality Report: <https://www.csu.org/CSUDocuments/waterqualityreport2014.pdf>.

Colorado Springs Utilities Board meets the Wednesday between City Council meetings.

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Monitoring Requirements Not Met for Fort Carson Army Base at Downrange Location, September 2013.

Our water system violated a drinking water standard last fall. Although this situation does not require that you take action, as our customers, you have a right to know what happened, what you should do, and what we have done to correct this situation.

We are required to monitor our drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During September of 2013 we did not complete all required monitoring for total coliform bacteria and therefore cannot be entirely sure of the quality of our drinking water during that time.

What should I do?

There is nothing you need to do. The information below explains what happened and what we did incorrectly.

Fort Carson tests for coliform bacteria in the drinking water monthly as an indicator of possible contamination. We take at least 50 samples monthly. If a sample tests positive for coliform bacteria, the regulations require retesting at the same location and at one location within 5 taps upstream and one location within 5 taps downstream. In September 2013 we had a positive test for coliform bacteria at a downrange site (see Figure 1). We retested the original location and it re-tested as negative for coliform bacteria. However, we failed to sample at the required upstream and downstream locations, thus the violation.

What happened? What is being done?

Since the repeat test at the sampled location came back as negative for coliform bacteria, no immediate action was taken. The downrange location was winterized, and the water turned off, in October and just recently turned back on in May 2014. Coliform bacteria tests of the original location, upstream and downstream have been performed recently with all results being negative for coliform bacteria. In a preventative measure, Fort Carson's Directorate of Public Works is adding booster chlorination to the pumps that supply water to the Wilderness Road Potable Water Storage Tank, which supplies all of the downrange sites. The booster chlorination will help prevent the presence of coliform bacteria in the future.

For more information, please contact of Harold Noonan, DPW, Environmental Division, Water Programs Manger at (719) 526-1730 or harold.v.noonan.civ@mail.mil.

Please share this information with other people who drink Fort Carson water, especially those who may not have received this notice directly. You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by Fort Carson Army Base, Colorado Public Water System ID#: CO-0221445; Date distributed: May 31, 2014.

Figure 1 - Location Map

